BAUM Retec AG

Vario

User Manual

Vario

User Manual

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BAUM Retec AG
Schloß Langenzell, D-69257 Wiesenbach
Telephone: (0049) 06223 / 4909-0
Telefax: (0049) 06223 / 4909-99

Table of Contents

Table of Contents

Typographic conventions

Typographic conventions are used to make text easier to read and also to distinguish between different types of text. In this manual the following conventions are used:

„Speech or screen program output"

Text in inverted commas represents speech or screen program output. These are either system messages, for example error messages, or commands.

Example:
„Save the file to continue".

```
Source file texts
```

Text from source files are excerpts from system files, for example AUTOEXEC.BAT or CONFIG.SYS or from other program files.

Example:
```
braille=NONE
speech=SSIL
ssildrv=keynote.dll
```

<Variable user input>

Text in pointed brackets indicates that the user input is variable, for example field names.

Example:
The recipient's address should be formatted as follows:
<Company>
<Title>space<First name>space<Last name>

Parameter settings

Italics are used when the program offers you various settings.

Manual and Chapter

This type is used to refer to other manuals or chapters.

Example:
For further information, refer to Chapter 3 *Introducing the David Pentium* in *David Pentium - Product Description*

Important note

This style is used for important information, for example an exception or a warning.

Contents

Vario is Always at Hand

Chapter 1 *Vario is Always at Hand*

The idea was to create a new generation of braille displays: tiny and light, extremely power saving and still powerful and flexible for the user's optimum benefit, a device you can use anytime and everywhere. Vario is the result: Once you hold it in your hand you know that this is the braille display you want to have at hand wherever you go.

The built-in batteries allow a use of 40 - 50 hours at a time without recharging. This is enough for a whole week of work without charger. After that recharging takes only about 2,5 hours. This high working capacity could only be obtained by a consequent power saving concept. Therefore, for example, Vario is switched off when it has not been used for 15 minutes.

Vario is so small that it can be placed in front of the pc keyboard. You can choose to have the braille display pointing towards you or away from you right before the pc keyboard, in case you want to rest your hands on top of Vario while reading. The direction of the braille on the display and the settings of the keys can be adapted to Vario's position by a keystroke.

Although extremely small, Vario provides you with all the features you need: A four letter statusfield with information about cursor position or attributes can be integrated into the braille display by keystroke. This method saves four additional braille elements on the left side of the display and makes vario by three cm smaller and easier to carry.

The six Display keys on each side of the braille display and the 40 positioning keys behind it provide an efficient handling. In the basic version they carry the most important functions of the program. The settings can easily be remembered because they are based on either ergonomical principles or the braille code system. For advanced requirements, a configuration program called "Propack" (Professional Pack) is available. This program allows free programming of all Vario elements and provides you with a wide scale of additional useful features for navigation on the computer screen.

A special program AUTOCUR.EXE helps you to work with DOS programs that use one or more software cursors. You will find it easy to use when you read the manual on the program diskette. For more complex programs that cannot be worked upon with an automatic soft cursor program, our programmable Cursor-Star is always available. You can adapt any program with it .

You can use Vario for MS DOS as well as for Windows 3.x or Windows 95. For the use of Windows you need the program Virgo or Screen Power. Moreover there are emulations to run Vario with systems of other manufacturers.

We are convinced that Vario will meet all your requirements and so we wish you greatest success and pleasure with your new assistent in computer technology.

Wiesenbach, July 1997

Josef Ender, BAUM Retec AG

Contents

Chapter 2 *About this Manual*

2.1 Structure and Goals

This manual is intended to provide a clear and concise introduction to working with Vario. The order of the described subjects corresponds to the logical learning process of the user:

❑ In the first step the manual describes Vario's structure and presents all its elements, their names, and their functions (*see chapter 3*).

❑ After that you switch Vario on and determine the direction of the type line on the braille display (*see chapter 4*).

❑ In the next step you learn a simple way of reading the contents of the screen and the use of further navigation methods (*see chapter 5*).

❑ At the end of chapter 5 you learn how to adapt Vario to your personal working habits (8 or 6 dot braille, cursor representation by 8 dot, underline or vibrating, integrating the status field into the braille line etc.).

Usually the installation precedes the work with the unit. As this only happens once, it will be discussed towards the end of the manual. In chapter 6 you learn how to connect Vario to your computer, to install the software and to configure the basic functions of your system according to your wishes. At the end of that chapter you find the answer to questions or problems that might turn up during your work.

The last chapter (*Appendix*) finally presents a short overview of all settings and possible configuration values.

The use of the soft cursor program AUTOCUR.EXE is described in a separate manual which is found with the AUTOCURSOR program on the included diskette.

2.2   *Abbreviations Used*

C.:   Cursor

W.:   Window (names the screen section that is shown on the braille display, in some cases simply called "braille line"

L.:   Line

Br.:   Braille

D: Display keys
(e.g. D1,2 represents the left upper and middle keys together)

P: Positioning keys behind the braille dislay,
e.g.   P1,2: The first two keys on the left side
          P39,40: The last two keys on the right side

M1 :   Menu 1 of the work settings

M2 :   Menu 2 of the work settings

Examples:
M1,Br,8: in Menu 1, item Br (Braille): press positioning key behind 8
M1,Cu,2-V: in Menu 1, item Cu (Cursor) first press positioning key behind 2, then the one behind V (vibrating)

Contents

Chapter 3   *Description of the Device*

> *Tip*
>
> *Vario can be placed in two ways:*
>
> *1. The braille display is at the front edge, pointing towards the user,*
> *2. The braille display is at the rear edge, pointing away from the user*

In this manual Vario is described as placed with the braille display at the front edge, pointing towards the user.

The 40-cell Braille line is located directly behind the front edge of Vario. The user may choose between 6- or 8-dot Braille output (*see chapter 5.3.2*). You can turn around the direction of the type line on the braille display in case you place Vario with the braille line pointing away from you (*see chapter 4* and *6.2*). Moreover a four cell status field can be integrated into the braille display (*see chapter 5.3.3*).

Behind each Braille cell you find a small key. They are called positioning keys, because by pressing them you cause a function for a certain position on the screen, for example cursor control, attribute display etc. In the manuals they are numbered left to right from P1 to P40.

A vertical row of three small keys is located to the right and left of the Braille display. They are called the display keys. These keys and combinations of them are assigned to window and system control functions. In the manual they are represented by D1-D6. The numbering of the keys corresponds to that of the Braille dots, i.e. on the left from top to bottom are the keys D1, 2, 3; on the right from top to bottom are the keys D4, 5, 6.

In the rear part of Vario the Piezo elements of the braille display, the batteries and the elecronic are located.

In the middle of the right side an on/off switch is found. Flipped towards the front edge it switches Vario on. This side of the switch is marked by a raised dot on the casing.

Description of the Device

On Vario's back you find one of the two serial connectors for the computer, about 2 centimeters away from the left edge. The other is integrated into the middle of the left side of Vario. They are identical and either can be used, depending on the position of Vario. For the connection special ten pole plugs are used whitch, after plugging, integrate into Vario's surface. The flat connecting cable is provided with the delivery.

The round AC adapter power cable jack is situated on the left side just behind the serial interface.

On both sides of Vario you find screw holes, about one centimeter off each corner. Here the notebook extension is attached. Together with the back part of Vario it forms a surface on which a notebook can be placed. A drawer is inserted at the rear for storage of diskettes, cds, cables etc.

The batteries are hidden under a plastic cover in the rear part of the ground plate underneath Vario. Because of their long working life they are not meant to be changed except for service reasons, i.e. when they are defect.

Contents

Turning on Vario and Determine the Direction of the Type Line on the Braille Display

Chapter 4   *Turning on Vario and Determine the Direction of the Type Line on the Braille Display*

> **Tip**
>
> *In this and the consecutive chapters we assume that the cable connection between Vario and the computer has been established and that the software is correctly installed. If this is not the case, please refer to ch.6. There you will also find information about how to determine the direction of the type line on the braille display. You may, however, wish to place your Vario the other way round. Therefore this item is described here once more to save you looking it up.*

The direction of the type line on the braille display is saved in Vario and thus independent of the overlay program. Therefore the direction will usually be determined before switching on the computer. Turn on Vario by flipping the rocker switch on the right side towards the front edge (marked by raised dot). On the display appears the name "Baum" followed by the version number and the name of the emulation mode. By pressing together the middle display keys on both sides (D2,5), you turn the type line by 180 degrees, i.e. it now runs from right to left and is upside down. Together with the type line, the order and settings of the keys are automatically changed to adapt to the new direction. You save the new direction by pressing D1,3 or D4,6 and holding them for at least three seconds. When the saving process is complete, the braille display is reset. The settings remain until you change them the next time.

Now turn the computer on. The overlay program that passes the screen information to the braille display will be loaded, and on the braille line you find the cursor position of the DOS prompt or the user program you may have installed. In case the braille display shows no reaction, press a key on the pc keyboard in order to synchronize Vario with the computer.

If you want to change the direction of the type line on your display during your work, you just switch Vario off and on again, redetermine the direction of the type line on the braille display, save the new settings and then press a key on the pc keyboard in order to synchronize Vario again with the computer.

Turning on Vario and Determine the Direction of the Type Line on the Braille Display

> ### *Tip*
>
> *If you do not use Vario for more than 15 minutes, it is turned off automatically. Thus an unintentional discharge is avoided in case you forgot to turn off the unit. To proceed with your work, just turn Vario off and on again.*

Contents

Chapter 5   *Screen Navigation*

A typical MS DOS screen consists of 25 lines with 80 characters each. The forty cell braille display can show up to 40 characters from the screen at a time. Therefore with each navigation keystroke 40 characters are sent to Vario. To the user the system presents itself as a forty character section through which he can watch the screen. This section can be moved in all directions to make all information on the screen accessible.

The section shown on the braille display is indicated on the screen by a flash. This is very useful during program training or when a blind user wants to cooperate with a sighted person. If necessary the flash can be switched off (see *chapter 5.3.3*).

In addition, further navigation functions are available:

❑   move the window to any determined line on the screen

❑   Search for character strings on the screen

❑   Ask for cursor and window position

❑   Display and search for attributes on the screen

5.1   Window and Cursor Movements

5.1.1   Reading the Screen

The Braille line normally displays the area around the cursor. When reading, the line can be detached from the cursor and moved over the screen like a window using the display keys. Therefore, in this manual the word "window" is used as well as the expression "braille line".

To read the whole screen you first have to move the window into the upper left corner of the screen. For that use the combination D1,2. The window is automatically detached from the cursor. For simple reading of the text on the screen use D6. This moves the window to the right and down, skipping blank sections on the screen so that you always find the next available text

on your display. With D4 you move the window in the same way backward through the text.

When you have reached the end of your text on the screen you hear a beep. That does not necessarily mean that you have reached the bottom of the screen. Your window can only be placed there when the whole screen is filled with text down to the last line.

To view all parts of the screen, including the blank sections, the program offers further navigation possibilities:

W. to bottom left screen corner: D2,3

X. W. to position 41-80:   D5

Y. W. to position 1-40:   D2

Z. W. to position 21-60:   D2,5

AA. W. one line down: D3

BB. W. one line up: D1

A summary of all settings are to be found in the Apendix.

5.1.2   *Line Search on the Screen*

Besides reading the screen line by line you can deliberately move the window to any line on the screen by command. To do so, enter the combination D3,4,5,6. This corresponds to the dot combination of the braille number sign, which can help as a memory aid. By entering a letter from A to Y you move the window into the corresponding lines 1 - 25. This system is rather simple for a braille user, for the numbers one to ten are represented by the letters A to J. The letters K - T are similar to the letters A - J only in that here dot three is added to each letter. Beginning with U dots three and six are added to the basic shape.

If you enter the combination D3,4,5,6 twice, the program switches to continuous mode in which each character input jumps to the corresponding line. That is helpful when you repeatedly need information from different lines. Cancel the continuous mode with the "Space bar".

5.1.3   *Search for Strings on the Screen*

You can find words or any string of characters on the screen by pressing D2,6. This corresponds to the dot combination of the braille question mark, which can help as a memory aid. The line shows the word "find". Enter here the search string (case is unimportant) and end with return. The search begins at the start of the screen.

When you end the entry with cursor down, the search begins at the window position downwards.

In case the string entered exists more than once on the screen you might want to repeat the search, because the system found the wrong string. Then press again D2,6, followed by the tab key. This brings the old search string on the display again and you may continue your search downwards with cursor down.

If the string is above the window position you end your entry with the cursor up key. The system now searches towards the top of the screen.

5.1.4   *Detach and Attach Window and Cursor*

There are different possibilities to detach the window from the cursor and to re-attach it again.

The cursor is automatically detached when a window movement command is entered. Move the window up with D1. You hear a short, middle high tone. It is then automatically re-attached with an input at the cursor position.

The Braille line can also be attached or detached with the combination D1,3. Detaching is indicated by a high signal tone, attaching by a deep one. In this case, the window would not automatically be attached by moving the cursor. This is helpful in many situations. Many programs, for example present small help texts to the corresponding program situation in a predetermined place on the screen. These texts change when the cursor is moved. When you detach the window and place it on the corresponding line on the screen you can read the help texts while moving the cursor.

It is also possible to move the cursor to the window. This function is called "cursor routing".

The cursor routing is very helpful in menus or when you are working on a text and you find a mistake. Press the positioning key behind the character

on which you want to place the cursor. The cursor is moved to that position, accompanied by a melodious ascending success tone. If the cursor cannot be moved to the indicated position you hear a dissonant descending error tone.

> ### *Tip*
>
> *The cursor can only be moved to places which you can also reach by using the cursor keys. Therefore the cursor routing cannot be tested on DOS level. We recommend to use an editor.*

The positioning keys can be used as well for cursor routing as for displaying attributes. When the status field is not integrated into the braille display they are switched to cursor routing. When you call up the status field, they automatically display the attributes. Further information on that subject can be found in chapters 5.2.1 and 5.2.2.

5.2 *Positions and Attributes*

5.2.1 *Window and Cursor Position on the Status Field*

The position of the window and the cursor are shown on a so-called status field. The status field can be integrated into the left or the right side of the braille display:

(dis)integrate status field on the left side: P38,40

(dis)integrate status field on the right side: P1,3

The status field on the Braille display is composed of four 8 dot Braille cells. It provides three pieces of information:

❑   Window position

❑   Cursor position

❑   Attribute display

It normally shows the position of the cursor and the window. For this purpose, the status cells are divided into two sections, with Braille dots 1, 2, 4, 5 forming the upper half and dots 3, 6, 7, 8 forming the lower half.

The cursor position is displayed in the top section and the window position is displayed in the bottom section. The two elements on the left display the line numbers and the two elements on the right display the column numbers.

5.2.2 Attribute Display on the Status Field

> **Tip**
>
> *The attributes are displayed on the status field. For that purpose it must be integrated either on the left or the right side of the display* (see *chapter 5.2.1* and *5.3.3*).

Attributes on the status elements are displayed in a fashion similar to the display on a color monitor, i.e. the fore- and backgrounds are distinguished by different colors. When you press one of the positioning keys, the fore- and background colors of the corresponding character is displayed on the status field.

Each color is represented by two letters. The first two letters on the status field indicate the foreground color and the last two letters indicate the background color.

Examples for attributes on the status field

❑ wtbk white on black

❑ bklg black on light gray

❑ rebl red on blue

A complete list of all colors is to be found in chapter 7.3.2.

The intensive colors are represented by capital letters. Unfortunately, the difference between flashing and intensive colors is dependent on the screen adapter card and cannot be recognized from within the program. You can find out which representation is used by determining which adapter card is used for your monitor.

There is no standard assignment of colors to attributes. A difference also exists between the attribute display on monochrome and color screens. If you would like to change the color assignment, the "Professional Pack" offers the ability to do so.

5.2.3   *Search for Attributes on the Screen*

There is a search function for attributes on the screen which you activate with the combination D3,5. (Memory aid: The combination is the reflection of the dot combination of the question mark, which is used for the search of strings on the screen.

The program presents an edit line in which you write the attribute name. Use the names of the colors as they are shown on the status field. If, for example, you want to search for red on blue, you write: rebl. You have now three possibilities to end the entry:

1   Return: search from start of screen

2   Cursor down: search from window downwards

3   Cursor up: search from window upwards

The window is now moved to the line where the attribute was found. If the attribute cannot be found on the screen, you hear the error tone.

In case the attribute entered exists more than once on the screen you might want to repeat the search, because the system found the wrong attribute. Then press again D3,5, followed by the tab key. This brings the old attribute string on the display again and you may continue your search with cursor down or up.

5.2.4   *Attribute Display with Dots 7 and 8*

Additionally to the displaying on the status field, attributes can be distinguished directly by adding dot 7, dot 8 or dots 7 and 8. As a standard the following attributes were marked:

Attribute 15 (white on black):   dot 8

Attribute 112 (black on light gray):   dots 7 and 8

In some situations the additional dots might be distracting when reading the text. They are therefore deactivated as a default. You can activate them with the menu for work settings: M1,At,1 (see ch.5.3.).

5.3 *Work Settings for Vario*

Besides the basic configuration of Vario there are some settings important for your daily work which you can change at any time (display of braille or cursor, reaction of the braille line while moving the cursor etc.).

> ### *Tip*
>
> *These changes influence the overlay settings and are not saved in Vario itself. They consequently get lost when the computer is turned off. If you want to have certain settings as a default, you can configure your system with the AUTOEXEC.BAT, using "PROPACK". You either load a whole parameter set with "PROTAB.EXE" or you just change single settings with "OVCMD.EXE".*

5.3.1 *Call and Leave the Menus for the Work Settings*

To change the work settings, press P1,2. This calls a group of menus in which you can change your work settings. The braille display always shows the recently called menu. At the moment two menus are available:

M1:   Br: 6/8 | Cu: 0/2/8/V | At: 0/1

M2:   Db: 0/1 | Dm: 0/1

The meaning of the menus and the abbreviations used will be explained in the next chapters.

You change the menus by pressing the positioning key behind the M and the beginning of the braille line. You change the menu items by pressing the key behind the corresponding value.

You leave the menu for work settings by pressing P39,40. The settings will be kept until you switch off your computer.

5.3.2 Menu1 for Braille, Cursor, and Attribute Display

To change the values of Menu1 follow these steps:

❑   Press P1,2.
    The display shows the menu for work settings.

❑   Push the key behind the M at the beginning of the braille   line until the
    display shows the entry:

    M1: Br: 6/8 | Cu: 0/2/8/V | At: 0/1

The menu items are separated from each another by a vertical line. Meaning
of the entries and settings available:

M1:   Menu1 (change the menu by pressing the positioning key behind
    the M)

Br: 6/8 Braille display

    6: display 6 dot Braille
    8: display 8 dot Braille
    Standard: 8 dot Braille

Cu: 0/2/8/V cursor display

    0: cursor off
    2: cursor by 2 dots (7,8)
    8: cursor by 8 dots (full form)
    V: cursor vibration on/off
    Standard: cursor by 8 dots, no vibration

    You can control the cursor setting on the cursor symbol at   the
    right end of your braille display.

At: 0/1 Attribute display by dots 7 and 8

    0: off `z
    1: on `z
    Standard: off

When you have finished your changes you leave the menu with P39,40.

5.3.3 *Menu2 for Display Flash and Display Mode (Jump/Dragged)*

To change the values of Menu2 follow these steps:

❑ Press P1,2.
The display shows the menu for work settings.

❑ Push the key behind the M at the beginning of the braille line until the display shows the entry:

M2: Db: 0/1 | Dm: 0/1

The menu items are separated from each another by a vertical line. Meaning of the entries and settings available:

M2: Menu2 (change the menu by pressing the positioning key behind the M)

Db: 0/1 Display blink
(flash of the screen section which is shown on the braille display)
0: off
1: on
Standard: on

Dm: 0/1 Display-Mode

0: Display dragged; when moving the cursor between columns 40 and 41, the window is dragged along with the cursor
1: display jump; when moving the cursor between columns 40 and 41, the window jumps to positions 1-40 or 41-80
Standard: dragged

When you have finished your changes you leave the menu with P39,40.

Contents

Installing Vario

Chapter 6   *Installing Vario*

This chapter begins with the installation of the hardware. The word hardware covers all parts you can touch like Vario, Computers cables, diskettes etc.

The next step is the installation of the software, i.e. the programs that are necessary to make the unit work.

The chapter ends with information about the treatment of the batteries and what to do in case of problems that might occur during your work.

6.1   Installing the Hardware

6.1.1   Connecting Power and Computer

> *Tip*
>
> *When connecting the interfaces, both Vario and the computer have to be turned off.*

Vario is connected to one of the computer serial ports COM1 - COM4. Use the flat cable that is delivered together with Vario. The smaller plug is used for Vario. On one side it is marked by a cam, which has to point downward when inserting the plug into one of Vario's interfaces. The other connector, for the computer interface, has a trapezoid shape to indicate how to plug it in.

Plug the charger cable into the power jack on Vario's left side and then the power adapter into an ac power socket. Of course, This is necessary only then the batteries are discharged.

6.1.2 *Attaching the Notebook Extension*

The notebook extension serves as a platform for notebooks. On its front edge there are two metal tongues. Slide Vario between them until the holes in the tongues cover the screw holes in the casing of Vario. Fasten the unit with the 4 screws included in the package, two on each side.

A drawer is inserted at the rear of the notebook extension for storage of diskettes, CDs, cables etc.

Included in the Vario package there are Velco strips to fasten the computer to the Vario unit. If you touch the strips you will notice that they have different surfaces:

❑   relatively smooth, velvet-like

❑   rough and hard, with little teeth

If you put strips with different surfaces together they cling very tightly and can only be separated by vertically pulling them apart. The adhesive power sideways is much greater than that in the vertical direction.

Fasten the one type of strips on the notebook extension and, if necessary, on Vario. Fasten the other type underneath the notebook. As notebooks are shaped differently it is not possible to determine in this manual where and how to fasten the strips. Take care that the strips fully cover each other when you place the computer on the Vario unit. While carrying the whole unit be aware that the strips resist strong powers from the side, but that they can rather easily be separated in the vertical direction. Therefore never carry the unit by holding Vario in your hand with the computer hanging upside down.

6.2   *Basic Settings in Vario (Direction of the Display Type Line and Emulation)*

Vario can be placed in two ways:

❑   The braille display is at the front edge, pointing towards the user

❑   The braille display is at the rear edge, pointing away from the user

The direction of the type line on the braille display and the settings of the keys must correspond to the way Vario is placed. Moreover Vario can be run with drivers for braille displays of different manufacturers. For that purpose various emulations are available.

The direction of the type line on the braille display as well as the emulations are saved in Vario. Therefore they will usually be determined before switching on the computer.

Turn on Vario by flipping the rocker switch on the right side towards the front edge (marked by raised dot). On the display appears the name "Baum" followed by the version number and the name of the emulation mode. By pressing the middle display keys on both sides together (D2,5), you turn the type line by 180 degrees, i.e. it now runs from right to left and is upside down. Together with the type line, the order and settings of the keys are automatically changed to adapt to the new direction.

With D3 and D1 you select the necessary emulation. For the moment two emulations are available:

Mode1:   Baum (overlay by BAUM Retec AG)

Mode2:   Emul.2 (overlay by Handy Tech)

More emulations are being developed. Information about the actual development is to be found on the program diskette in the files VARINFD.TXT (for German) and VARINFE.TXT (for English).

You save the new settings by pressing D1,3 or D4,6 and holding them for at least three seconds. When the saving process is complete, the braille display is reset. The The settings remain until you change them the next time.

6.3 *Installing the Software*

6.3.1 *How Does the Overlay Work*

Under MS DOS Vario is run with a so-called overlay program, OV-VARIO.EXE. It reads the screen information and transfers it in sections of 40 characters to Vario, using one of the four serial interfaces. Implemented in the program are more than 100 commands for controlling the display and navigation on the screen. The most important among them have been dedicated to Vario's keys and are automatically activated in loading the program.

Using the configuration program Propack (not included in the package of the basic version) all funcions will be available for you. Thus you can considearably enlarge the possibilities of your Vario (use screen markers, employ screen markers, work with different braille tables etc.).

When loading the overlay, parameters allow a configuration of the system (selecting the interface, use of interrupts, where to obtain the cursor etc.).

The basic version of Vario supplies several sets of braille tables that are loaded as programs. They are located on the program disk in the subdirectory TAB and can be started in the AUTOEXEC.BAT after the overlay program.

6.3.2 *Starting the Overlay from the Diskette*

When your computer has not been equipped with a braille display so far and you want to install Vario without a sighted assistant, you may load the overlay program directly from the program diskette in order to activate your braille display. Start your computer until the MS DOS level is reached and enter at the DOS prompt:

A:\OV-VARIO

When using another than COM1, an interface parameter has to be set, e.g.:

A:\OV-VARIO /COM2

When using COM3 or COM4 it is not enough just to call the port number. Here you have to write the port address of the serial device (hexadecimal) and a free IRQ.

You find the port address in the documentation of your serial port. For COM3 it is often 3E8, for COM4 2E8. To find a free IRQ, you can use the program MSD.EXE. As a rule 5, 10, and 11 are available when no sound card is involved. Sound card often use IRQ5

Example for COM3:   OV-VARIO /PORT=3E8 /IRQ=10

Example for COM4 :   OV-VARIO /PORT=2E8 /IRQ=11

6.3.3   Installing the Complete Software on the Hard Disk and Changing the AUTOEXEC.BAT

Make the directory C:\VARIO on your hard disk and copy all files of your program disk into it. You should find the following files:

OV-VARIO.COM   (overlay program to connect Vario to the computer)

VAR-10D.TXT   (Manual for Vario in German as ASCII file)

VAR-10E.TXT   (Manual for Vario in English as ASCII file)

VARINFD.TXT   (last minute information on Vario in German)

VARINFE.TXT   (last minute information on Vario in English)

The programs for different braille tables are to be found in the subdirectory TAB.

On the AUTOCUR diskette you find the following files:

AUTOCUR.EXE   (program that attaches the hard cursor to the soft cursor)

AUTOCURD.TXT   (manual for AUTOCUR in German as ASCII file)

AUTOCURE.TXT   (manual for AUTOCUR in English as ASCII file)

If you want to activate Vario automatically after starting the computer, you have to add the following entries to the AUTOEXEC.BAT:

> *c:*

> *cd \VARIO*

> *OV-VARIO*

If you want to use another port than COM1, you have to add a parameter to the program call. For COM2 you have to enter:

> *OV-VARIO /COM2*

When using COM3 or COM4 it is not enough just to call the port number. Here you have to write the port address of the serial device (hexadecimal) and a free IRQ.

You find the port address in the documentation of your serial port. For COM3 it is often 3E8, for COM4 2E8. To find a free IRQ, you can use the program MSD.EXE. As a rule 5, 10, and 11 are available when no sound card is involved. Sound card often use IRQ5

Example for COM3:   OV-VARIO /PORT=3E8 /IRQ=10

Example for COM4   OV-VARIO /PORT=2E8 /IRQ=11

6.4   *Charging and Treatment of the Batteries*

Before using Vario for the first time, you should load the batteries.

For charging use only the charger, which is included in the Vario package. Plug it first into the round power jack on Vario's left side, behind the interface, then connect it to the ac power supply. Even when Vario is turned off, the braille display is activated, showing the loading time passed. This vanishes after 2 minutes, can, however, be activated again by pressing a display key. Charging the batteries completely takes about two and a half hours. When charging is finished the loading time is displayed.

When the batteries run down, Vario is automatically switched off to prevent a total discharge that might cause serious damage in the batteries. Twenty minutes before that moment, the braille display shows a warning:

"Low Bat: 20 min remaining".

After pressing any key you can continue your work with Vario, in order, for example, to save your data. You should, however, connect Vario with the charger as soon as possible before the unit is turned off completely. During these last twenty minutes, the warning will be repeated several times. A full capacity battery should work between 40 and 50 hours.

If you do not use Vario for more than 15 minutes, it is turned off automatically. Thus an unintentional discharge is avoided in case you forgot to turn off the unit. To proceed with your work, just turn Vario off and on again.

The batteries are hidden under a plastic cover in the rear part of the ground plate underneath Vario. Because of their long working life they are not meant to be changed except for service reasons. You open the battery compartment by sliding a screw driver under the front side of the plastic cover and lifting it up. The batteries are inserted without any plug connection so that you can easily remove them. When changing the batteries take care that the poles are placed correctly.

6.5   *Trouble Shooting*

In many cases a supposed defect finally turns out to be a mistake in operating the system or a misinterpretation of an unexpected effect. To save

you the trouble of unnecessary calls to the service, here some hints for possible situations. Let us know about your experiences, too. We are grateful for any hints or tips and we will include useful information in our manuals.

Problem: After starting the overlay program, there is no change on the braille display.

Cause: Check the cabling to the computer.
Is the program call correct?
Is the port correct and is it activated
(especially when using notebooks)?
Was there another program loaded before OV-VARIO which uses the same port?
When Vario shows no reaction at all, turn it off, cut all connections and wait at least two minutes before turning it on again.

Problem: After turning Vario on, the braille line shows unintelligible letters.

Cause: Check whether the letters are upside down, i.e. the determination of the display type line is wrong. If this is not true, check the cabling to the computer.

Problem: After turning on Vario, the braille display shows no reaction at all.

Cause: The battery is totally empty and needs charging.

The power switch has a loose connection. Try the switch several times. If the switch does not work reliably, contact the service.

Problem: Vario is turned on, but there is suddenly no reaction on the display.

Cause: You have not used Vario for more than 15 minutes and it has switched off automatically. Turn it off and on and press a key on the PC keyboard to synchronise it again.

Problem: Using a notebook, Vario is sometimes disconnected without obvious reason, although all parameters and the cabling are correct.

Cause: The power management of the notebook influences the serial port and switches the connection off in certain situations. Disable the power management for the serial port.

Contents

Chapter 7   *Appendix*

7.1   Display Keys Settings

The display keys are numbered in the same order as the Braille dots, i.e. from top to bottom

❑   on the left are keys   D1,2,3

❑   on the right are keys   D4,5,6

With these 6 keys up to 63 combinations are possible. Not all combinations are assigned to functions.

Read text forwards:	D6 (blank lines are skipped)
Read text backwards:	D4 (blank lines are skipped)
W. one line down:	D3
W. one line up:	D1
W. to position 41-80:	D5
W. to position 1-40:	D2
W. to position 21-60:	D2,5
Attach/detach window, stays at cursor:	D1,3
W. home, left upper screen corner:	D1,2
W. to bottom left screen corner:	D2,3
Window to line #:	D3,4,5,6 (Enter a letter from a-y to jump to the corresponding line.) Double input switches the program to continuous mode in which each character input

	jumps to the corresponding line. Cancel the continuous mode with the "Space bar".
Search for character string on screen:	D2,6 Enter search string (case is unimportant), end with Return:search from start of screen Cursor down: search from window downwards Cursor up: search from window upwards Tab: write last search string
Search for attribute on screen:	D3,5 Enter attribute colors as shown on status field, end with Return: search from start of screen Cursor down: search from window downwards Cursor up: search from window upwards Tab: write last attribute

7.2 Positioning Keys Settings

When Vario is placed with the braille display towards the user, the positioning keys are behind the braille line. They are numbered left to right from P1 to P40.

(dis)integrate status field on the left side:	P38,40
(dis)integrate status field on the right side:	P1,3
Cursor-Routing:	Press the key behind the braille cell, where you want to place the cursor. The status field has to be disintegrated
Display Attribute:	Press the key behind the letter, whose attribute you want to dispay. The status field has to be integrated
Call Menus for work settings:	P1,2
Leave Menus for work settings:	P39,40

7.3   *Attribute Lists*

7.3.1   *List of Attributes Dots 7,8*

Attribute 15 (white on black):   dot 8

Attribute 112 (black on light gray):   dots 7 and 8

7.3.2   *List of Attributes on the Status Field*

Each color is represented by two letters on the status field. The first two letters on the status field indicate the foreground color and the last two letters indicate the background color.

Foreground colors:

black	bk
blue	bl
green	gr
turquoise	tq
red	re
purple	pu
brown	bn
light gray	lg
dark gray	dg
light blue	lb
light green	ln
light turquoise	lt
light red	lr

Appendix

Foreground colors *(contd.)***:**

light purple   lp

yellow   ye

white   wt

Background colors:

black   bk

blue   bl

green   gr

turquoise   tq

red   re

purple   pu

brown   bn

light gray   lg

intensive black   BK

intensive blue   BL

intensive green   GR

intensive turquoise TQ

intensive red   RE

intensive purple   PU

intensive brown   BN

intensive light gray LG

The intensive colors are represented by capital letters.

7.4 Tone Signal List

The tone signals consists of 3 elements and are separated by a colon (:).

❑ Tone pitch in Hertz

❑ Tone length

❑ Volume

Attach window to cursor: 100:0.100:1

Detach window from cursor: 2000:0.100:1

Detach window by
moving window: 400:0.010:1

Window on the edge
of the screen: 1000:0.020:1/0:0.015:1/1000:0.050:1

Line jump: 2500:0.020:1

Key click: 1000:0.002:1

Success tone: 700:0.050:1/940:0.100:1

Error tone: 900:0.50:1/870:0.100:1

7.5 Overlay Parameters List

To call program:

OV-VARIO /Parameter1 /Parameter2 ...

List of the parameters

COM1 connenction to serial port 1
(available: COM1 - COM4)

COM2 connenction to serial port 2
Using COM3 and COM4 write the port address of the serial
device (hexadecimal) and a free IRQ. The values depend on the
serial device and the computer configuration. Therefore the
following entries can only be regarded as examples:

Example for COM3:

OV-VARIO /PORT=3E8 /IRQ=10

Example for COM4:

OV-VARIO /PORT=2E8 /IRQ=11

bios obtain the cursor position from the BIOS data sectors

crt obtain the cursor position from the registers of the CRT controllers. This parameter has to be set when using AUTOCUR or CURSORSTAR

nofake simulates keystrokes via bios instead of using the keyboard controller

off switch the overlay temporarily off

on switch the overlay on again

timint regular interrupt (normal setting)

keyint overlay only activated when the computer is able to accept the key inputs (for programs requiring a lot of processing time)

vison switch on Braille window flashing

visoff switch off Braille window flashing

lwalk turn off „walk mode". The attached window remains attached to the cursor even after window movement (see *uwalk*).

uwalk turn on "walk mode". The attached window is automatically detached from the cursor when the window is moved, any character input reattaches the window (see *lwalk*).

help display parameter list